

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.(currently amended) A magnetic write head comprising:

an ABS, a top pole having a first top surface and a first thickness, and a bottom pole, said poles being separated by a write gap;

said top pole including an end piece having a top surface that is coplanar with said first top surface and a thickness that exceeds said first thickness by between about 0.1 and 0.5 microns, said end piece being disposed to lie directly above said bottom pole and extending horizontally from the ABS for between about 0.3 and 1 microns;

said bottom pole further comprising front and rear sections resting on a flat layer having an outer edge;

said front section further comprising:

trapezoidal front and rear vertical walls, separated by a second thickness, and an upper flat area;

centrally located on said upper flat area, a flux concentrator that extends upwards towards said end piece, thereby defining said write gap, and having an upper surface;

said rear section further comprising:

a rectangular prism having vertical inner and outer walls with said inner wall symmetrically contacting said trapezoidal rear wall and said outer wall extending to said flat layer outer edge;

said rectangular prism having an upper surface that is lower than said flux concentrator upper surface by less than about 0.3 microns and higher than said upper flat area by less than about 0.3 microns;

connected to said flux concentrator on said rectangular prism upper surface, a flux extender whose upper surface is coplanar with said flux concentrator upper surface, and that extends therefrom for a distance; [and]

said flux extender being shaped so that it does not overlap said top pole and said top pole does not overlap said flux extender except where said top pole extends beyond said rectangular prism upper surface; and

said end piece, said flux concentrator, and said trapezoidal front wall all having surfaces that form part of said ABS.

2. (original) The write head described in claim 1 wherein said top pole first thickness is between about 0.7 and 2 microns.

3. (original) The write head described in claim 1 wherein said second thickness separating said trapezoidal walls is between about 0.3 and 1 microns.

4. (original) The write head described in claim 1 wherein said flux concentrator extends upwards from said upper flat area between about 0.1 and 0.4 microns.

5. (original) The write head described in claim 1 wherein the distance that the flux extender extends from the flux concentrator is between about 0.5 and 2 microns.

6. (original) The write head described in claim 1 wherein said rectangular prism has a height of between about 2 and 4.5 microns.

7. (original) The write head described in claim 1 wherein said flat layer, on which said front and rear sections rest, is between about 2 and 4.5 microns. thick.

8. (currently amended) A magnetic write head comprising:

an ABS, a top pole, including an end piece, having a first top surface and a first thickness, and a bottom pole, said poles being separated by a write gap;

said top pole having a planar lower surface that defines an upper bound for said write gap;

said bottom pole further comprising front and rear sections resting on a flat layer having an outer edge;

said front section further comprising:

trapezoidal front and rear vertical walls, separated by a second thickness, and an upper flat area;

centrally located on said upper flat area, a flux concentrator that extends upwards towards said end piece, thereby defining a lower bound for said write gap, and having an upper surface;

said rear section further comprising:

a rectangular prism having vertical inner and outer walls with said inner wall symmetrically contacting said trapezoidal rear wall and said outer wall extending to said flat layer outer edge;

said rectangular prism having an upper surface that is lower than said flux concentrator upper surface by less than about 0.3 microns and higher than said upper flat area by less than about 0.3 microns;

connected to said flux concentrator on said rectangular prism upper surface, a flux extender whose upper surface is coplanar with said flux concentrator upper surface, and that extends therefrom for a distance; [and]

said flux extender being shaped so that it does not overlap said top pole and said top pole does not overlap said flux extender except where said top pole extends beyond said rectangular prism upper surface; and

said end piece, said flux concentrator, and said trapezoidal front wall all having surfaces that form part of said ABS.

9. (original) The write head described in claim 8 wherein said top pole first thickness is between about 0.7 and 0.2 microns.

10. (original) The write head described in claim 8 wherein said second thickness separating said trapezoidal walls is between about 0.3 and 1 microns.

11. (original) The write head described in claim 8 wherein said flux concentrator extends upwards from said upper flat area between about 0.1 and 0.4 microns.

12. (original) The write head described in claim 8 wherein the distance that the flux extender extends from the flux concentrator is between about 0.5 and 2 microns.

13. (original) The write head described in claim 8 wherein said rectangular prism has a height of between about 2 and 4.5 microns.

14. (original) The write head described in claim 8 wherein said flat layer, on which said front and rear sections rest, is between about 2 and 4.5 microns thick.

15. (currently amended) A magnetic write head comprising:

an ABS, a top pole having a first top surface and a first thickness, and a bottom pole, said poles being separated by a write gap;

said top pole having a planar lower surface that defines an upper bound for said write gap;

said bottom pole further comprising front and rear sections resting on a flat layer that extends to a first distance from said ABS;

said front section further comprising:

trapezoidal front and rear vertical walls, separated by a second thickness, and an upper flat area;

centrally located on said upper flat area, a flux concentrator that extends upwards towards said end piece, thereby defining a lower bound for said write gap, and having an upper surface;

said rear section further comprising:

a rectangular prism having vertical inner and outer walls with said inner wall symmetrically contacting said trapezoidal rear wall;

said inner and outer walls being separated by a second distance, which is less than said first distance, whereby a portion of said flat layer is not covered by said rectangular prism;

said rectangular prism having an upper surface that is lower than said flux concentrator upper surface by less than about 0.3 microns and higher than said upper flat area by less than about 0.3 microns;

connected to said flux concentrator on said rectangular prism upper surface, a flux extender whose upper surface is coplanar with said flux concentrator upper surface, and that extends therefrom for a distance; [and]

said flux extender being shaped so that it does not overlap said top pole and said top pole does not overlap said flux extender except where said top pole extends beyond said rectangular prism upper surface; and

said top pole piece, said flux concentrator, and said trapezoidal front wall all having surfaces that form part of said ABS.

16. (original) The write head described in claim 15 wherein said top pole first thickness is between about 0.7 and 2 microns.

17. (original) The write head described in claim 15 wherein said second thickness separating said trapezoidal walls is between about 0.3 and 1 microns.

18. (original) The write head described in claim 15 wherein said flux concentrator extends upwards from said upper flat area between about 0.1 and 0.4 microns.

19. (original) The write head described in claim 15 wherein the distance that the flux extender extends from the flux concentrator is between about 0.5 and 2 microns.

20. (original) The write head described in claim 15 wherein said rectangular prism has a height of between about 2 and 4.5 microns.

21. (original) The write head described in claim 15 wherein said flat layer, on which said front and rear sections rest, is between about 1.4 and 2.6 microns thick.

22. (currently amended) A magnetic write head comprising:

an ABS, a top pole having a first top surface and a first thickness, and a bottom pole, said poles being separated by a write gap;

said top pole including an end piece having a top surface that is coplanar with said first top surface and a thickness that exceeds said first thickness by between about 0.1 and 0.5 microns, said end piece being disposed to lie directly above said bottom pole and extending horizontally from the ABS for between about 0.3 and 1 microns;

said bottom pole further comprising front and rear sections resting on a flat layer having an outer edge that is separated from an inner edge by a first distance;

said front section further comprising:

trapezoidal front and rear vertical walls, separated by a second thickness, and an upper flat area;

centrally located on said upper flat area, a flux concentrator that extends upwards towards said end piece, thereby defining said write gap, and having an upper surface;

said rear section further comprising:

a rectangular prism having vertical inner and outer walls with said inner wall symmetrically contacting said trapezoidal rear wall;

said inner and outer walls being separated by a second distance, which is less than said first distance, whereby a portion of said flat layer is not covered by said rectangular prism;

said rectangular prism having an upper surface that is lower than said flux concentrator upper surface by less than about 0.3 microns and higher than said upper flat area by less than about 0.3 microns;

connected to said flux concentrator on said rectangular prism upper surface, a flux extender whose upper surface is coplanar with said flux concentrator upper surface, and that extends therefrom for a distance; [and]

said flux extender being shaped so that it does not overlap said top pole and said top pole does not overlap said flux extender except where said top pole extends beyond said rectangular prism upper surface; and

said end piece, said flux concentrator, and said trapezoidal front wall all having surfaces that form part of said ABS.

23. (original) The write head described in claim 22 wherein said top pole first thickness is between about 0.7 and 2 microns.

24. (original) The write head described in claim 22 wherein said second thickness separating said trapezoidal walls is between about 0.3 and 1 microns.

25. (original) The write head described in claim 22 wherein said flux concentrator extends upwards from said upper flat area between about 0.1 and 0.4 microns.

26. (original) The write head described in claim 22 wherein the distance that the flux extender extends from the flux concentrator is between about 0.5 and 1.5 microns.

Appl. No. 10/789,097
Amdt. dated 05/07/2007
Reply to Office action of 04/24/2007

27. (original) The write head described in claim 22 wherein said rectangular prism has a height of between about 2 and 4.5 microns.

28. (original) The write head described in claim 22 wherein said flat layer, on which said front and rear sections rest, is between about 1.4 and 2.6 microns thick.

29-37. Canceled